FOX RIVER CURRENT

November/December 2001 Vol. 4, No. 4 Update from the Lower Fox River Intergovernmental Partnership

DNR Comment Period Underway for Fox Proposed Cleanup Plan

By Greg Swanson, Wisconsin Department of Natural Resources

The Wisconsin Department of Natural Resources is currently accepting public comments on the Lower Fox River/Green Bay proposed cleanup plan.

Announced on Oct. 2 by DNR Secretary Darrell Bazzell and U.S. Environmental Protection Agency Region 5 Administrator Tom Skinner, the proposed cleanup plan has been made available to the public for review and comment. Bazzell and Skinner were joined by U.S. Fish and Wildlife Service Regional Administrator Bill Hartwig and staff from DNR and EPA at the event.

In forming the plan, DNR and EPA considered over 100 technologies to address polychlorinated biphenyl-contaminated sediment. The feasibility study narrowed this to seven general alternatives, incorporating 25 technologies. Of the seven, two cleanup alternatives are proposed for use: hydraulic dredging with off-site disposal and monitored natural recovery.

- ***Hydraulic Dredging with Off-Site Disposal*** (Alternative C) is one of the two alternatives proposed for the cleanup. In this alternative, a hydraulic dredge excavates the PCB-contaminated sediment to a site on shore where it is processed. The sediment is dewatered and the water is treated and returned to the river. The dewatered sediment is deposited in a state-approved landfill.
- ***Monitored Natural Recovery*** (Alternative B) is the other alternative proposed for the cleanup. This alternative relies on natural processes to break down, dilute or bury the contaminants. It also includes a long-term monitoring program to track trends in contaminant concentrations over time in sediment, water, invertebrates, fish and birds. It can also use institutional controls like fish consumption advisories and other restrictions.

DNR Secretary Darrell Bazzell (left), EPA Region 5 Administrator Tom Skinner (center) and FWS Regional Administrator Bill Hartwig address the press conference.

The Lower Fox River and Green Bay have been divided into five operable units for the proposed cleanup plan.

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- ***OU 1 – Little Lake Butte des Morts.*** Dredging with off-site disposal. The goal is to remove nearly 800,000 cubic yards of sediment containing 3,700 pounds of PCBs. Dredging is expected to take six years. Once dredging is complete, a long-term monitoring program will be put in place. Fish consumption advisories are expected to be eliminated in about nine years. Ecologically safe levels are expected to be met in 14 to 29 years. The estimated cost is $58 million.

DNR's Ed Lynch answers a reporter's question about the river cleanup.

- ***OU 2 – Appleton to Little Rapids.*** Monitored natural recovery. A 40-year monitoring program with institutional controls will be used. This section of the river is approximately 20 miles long and is composed of a series of channels and pools controlled by seven locks and dams. The numerous locks and dams and the physical characteristics of the river pose significant barriers to cleanup operations. Also, some of the PCB mass in this stretch was removed during dredging at Deposits N and O in 1999 and 2000. It will take an estimated 40 to 70 years to reduce fish consumption risks to anglers to safe levels. The estimated cost is $10 million.
- ***OU 3 – Little Rapids to De Pere.*** Dredging with off-site disposal. This stretch of river is approximately six miles long. The goal is to remove about 600,000 cubic yards of contaminated sediment containing approximately 2,400 pounds of PCBs. Dredging is expected to take five years. Once dredging is completed, a long-term monitoring program will be put in place. Fish consumption advisories are expected to be eliminated within 30 years and ecologically safe levels met in 22 to 43 years. The estimated cost is $31 million.
- ***OU 4 – De Pere to Green Bay.*** Dredging with off-site disposal. This reach of river is approximately seven miles long and contains over 90 percent of the Fox River's PCB contaminant mass in a large, continuous sediment deposit. The goal is to remove nearly six million cubic yards of contaminated sediment containing over 58,000 pounds of PCBs. Dredging is expected to last seven years. After dredging is completed, a long-term monitoring program will be put in place. Fish consumption advisories are expected to be eliminated within 45 years and ecologically safe levels met in 20 to 45 years. The estimated cost is $170 million.
- ***OU 5 – Green Bay.*** Monitored natural recovery. A 40-year monitoring program with institutional controls will be used. Green Bay extends from the mouth of the Fox River 120 miles north to the north shore of Big Bay de Noc. The bay contains an estimated 800 million cubic yards of sediment containing approximately 150,000 pounds of PCBs. An impediment to removing PCBs from the bay is the relatively low concentrations of PCBs spread over a very large area in a very large volume of sediment. It may require over 100 years to reduce the human health and ecological risks to acceptable levels. The estimated cost is $40 million.

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In response to reader requests, the Fox River Current will regularly feature articles on the technologies used to address contaminated sediment.

Technical Corner . . .

Monitored Natural Recovery as a Cleanup Alternative

By Greg Swanson, Wisconsin Department of Natural Resources

In the Lower Fox River/Green Bay *Proposed Remedial Action Plan* (cleanup plan), one of the alternatives proposed for some parts of the project area is monitored natural recovery. The Wisconsin Department of Natural Resources and the U.S. Environmental Protection Agency have proposed this alternative for Green Bay and the 20-mile section of the Lower Fox River from Appleton to Little Rapids.

MNR relies on natural processes like burial, degradation or dechlorination and dispersion of the sediment that has been contaminated by polychlorinated biphenyls. These processes will, over time, reduce the toxic characteristics, overall volume and movement of the contaminated sediment. MNR builds on a no-action alternative, which already contains institutional controls like fish consumption advisories. What differentiates MNR from a no-action course are two factors. The first is a long-term monitoring program for measuring PCB levels in the water and sediment and living organisms like invertebrates, fish and birds to determine if the natural processes are working as expected. The second is the use of institutional controls. Institutional controls are measures that restrict access to or uses of a site. They typically consist of outreach activities, such as health advisories and public education programs, but can also include legal restrictions, such as conditions that could limit dredging or development in parts of the river and bay.

According to Ed Lynch, DNR's remedial investigation/feasibility study project manager, there are a number of factors that caused MNR to be proposed for a part of the river and for Green Bay. "Firstly, the pilot dredging project at Deposits N and O already removed a significant amount of the PCB mass in the reach of river from Appleton to Little Rapids. The reach now contains only small deposits of PCBs that represent only a small portion of the total PCB mass in the river. The cost to remove these deposits is very high in comparison to the benefit." Lynch added, "There are also other impediments, like the presence of several dams and the physical characteristics of the river itself, that would make it difficult to dredge the areas within this reach."

In Green Bay, very little of the total sediment volume in the bay is above the 1 part per million action level chosen for the cleanup. "The main impediment to removing PCBs from the bay," said Lynch, "is the relatively low concentrations of PCBs spread over a very large area in a very large volume of sediment."

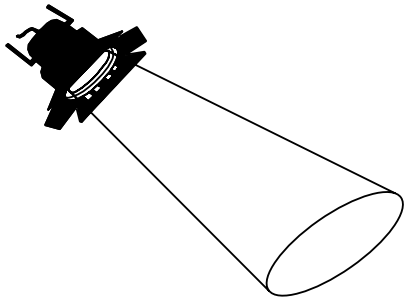
The long-term monitoring program is intended to last for 40 years. The monitoring program will likely include:

- Surface water quality sampling at several points along the river reaches and in Green Bay to determine how much of the PCB mass is being transported downstream and from the bay into Lake Michigan.
- Fish and waterfowl tissue sampling of several species and sizes to determine the residual risk of PCB consumption to humans.
- Fish, bird and bottom-dwelling organism tissue sampling to determine the residual risk of PCBs to those organisms.
- Population studies of bald eagles and double-crested cormorants to assess the residual effects of PCBs on their reproduction.

See **Technical Corner**, *page 5*

In response to reader requests, the Fox River Current will regularly feature successful natural resource damage assessments similar to what may occur at the Lower Fox River.

Spotlight On:



Saginaw River and Bay

By Susan Pastor, U.S. Environmental Protection Agency

The Saginaw River and Bay on the eastern side of Michigan is a multi-faceted natural resource damage assessment done by a co-trustee group consisting of the U.S. Fish and Wildlife Service, the state of Michigan and the Saginaw Chippewa Tribe.

The NRDA settlement, reached in 1998, includes seven different elements that will be addressed by General Motors Corporation and the cities of Bay City and Saginaw. The settlement provides for substantial cleanup of polychlorinated biphenyl contamination in the river and for protection and restoration of fish and wildlife habitats in the river and bay.

FWS has begun coastal wetland and lakeplain prairie restoration projects.

Specific elements of the settlement and restoration include:

- Dredging of 345,000 cubic yards of the most contaminated areas of the river.
- Restoring and protecting habitat at nearby Big and Little Charity Islands and 200 to 400 acres of coastal wetlands and prairies.
- Providing two, rent-free, 99-year leases to FWS for the Green Point Environmental Learning Center interpretive building.
- Restoring nearby Tobico Marsh.
- Providing three recreational/educational facilities with boat launches, nature-viewing areas and interpretive signs.
- Adding $3 million to the restoration account to be used for monitoring recovery and implementing additional restoration projects.
- Reimbursing the trustees for $2 million of their assessment costs.

According to the FWS Web site, this is one of its largest settlements as the lead federal agency to recover natural damages.

Trustees are especially pleased these days because the dredging portion of the settlement is already completed. The project began in April 2000 and was completed in July 2001. “With contaminants removed, area residents can look forward to restoration of the fish, wildlife and habitat that make this region so special,” said Bill Hartwig, regional director for the FWS.

According to Michigan Attorney General Jennifer M. Granholm, those responsible for the contamination paid nearly $10 million for the cleanup. “Clearly, the

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Saginaw Bay watershed and the Great Lakes are better off now than just a few months ago," she added.

The dredging project, managed and designed by the U.S. Army Corps of Engineers, used a specially designed "gasketted" clamshell dredge bucket to remove sediment from the most contaminated parts of the river. Resuspension of material during dredging was controlled with careful use of this bucket (or conventional bucket when harder material was encountered) and by silt curtains which completely enclosed the area being dredged.

The contaminated sediment was transported by barge to a confined disposal facility designed to temporarily store such material just outside the mouth of the Saginaw River. Next, it was loaded into trucks from the barges and then placed in an area in the northeast part of the facility. It will be covered with cleaner material from the Corps' maintenance dredging activities.

The Saginaw River became contaminated between the 1940s and 1970s when industrial facilities and wastewater treatment plants on the river released PCBs into the river. These releases caused major environmental damage to the ecosystem of the bay. Saginaw Bay, which also drains into Lake Huron, is regarded as one of the prime walleye fishing and waterfowl hunting areas in the Great Lakes.

The contamination has affected fish and wildlife resources in the river and bay, resulting in advisories against eating all species of fish in the river and for many in the bay. Also, bald eagle reproduction rates are significantly lower in these areas than in less contaminated areas.

When completed, the settlement and pending restoration is expected to result in a cleaner and healthier ecosystem for natural resources and people, according to Craig Czarnecki, supervisor of the East Lansing, Mich. FWS field office. He concluded, "With this success underway, we now look to restore healthy fish and wildlife populations, and habitats in other impacted areas of the Great Lakes."

For more information on the Saginaw River and Bay NRDA settlement, contact Craig Czarnecki at (517) 351-8470, or refer to the FWS Web site at: http://midwest.fws.gov/nrda/saginaw.

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- Sediment sampling in MNR areas to assess the status of natural recovery.

Institutional controls, like fish consumption advisories, access restrictions or dredging moratoriums, will be required to prevent or minimize exposure of people and animals to contaminants.

MNR can be an effective alternative under the appropriate conditions, and institutional controls are generally effective at limiting human exposure. Natural processes are central to evaluating the long-term performance of technology-based remedial alternatives like dredging and institutional controls are important features of many sediment cleanup projects.

Out and About...

The Fox River Intergovernmental Partnership, made up of the U.S. Environmental Protection Agency, Wisconsin Department of Natural Resources, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Oneida Tribe of Indians of Wisconsin and Menominee Indian Tribe of Wisconsin, is available to provide speakers to organizations in the Fox Valley area. To request a speaker from the Fox River Intergovernmental Partnership, contact Greg Swanson. Greg's contact information is listed on the back page of this newsletter.

Proposed Cleanup Will Lift Walleye Fish Advisories

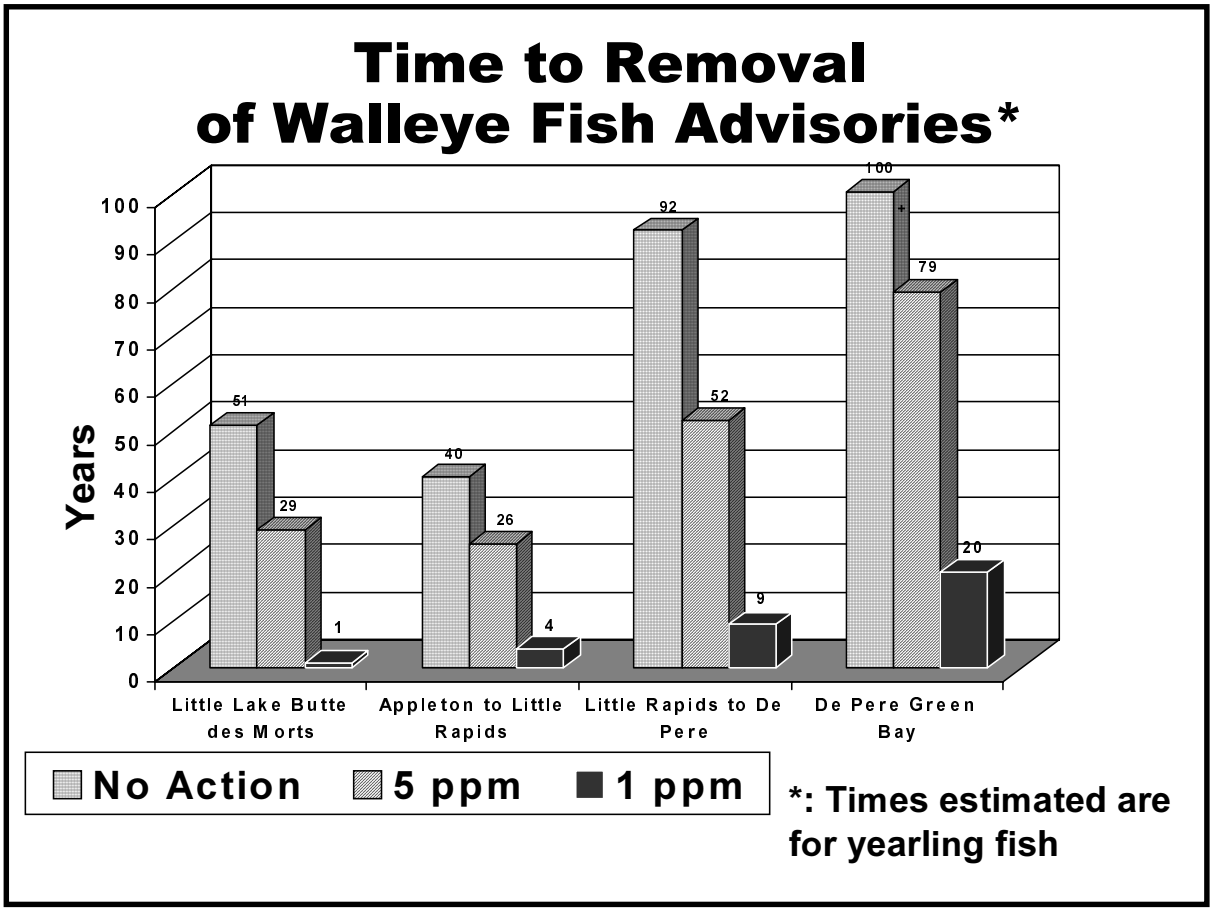
By Susan Pastor, U.S. Environmental Protection Agency

The primary goal of the proposed cleanup plan recently issued by the U.S. Environmental Protection Agency and Wisconsin Department of Natural Resources is to reduce the risks of eating contaminated fish. One measure of the plan's effectiveness will be how soon fish consumption advisories can be reduced or eliminated for the Lower Fox River.

Because of polychlorinated biphenyls, fish advisories have been in place since 1977. These advisories protect anglers primarily from immune, reproductive and nervous system impacts. In addition, the advisories protect people from cancer. Chuck Warzecha, health scientist with the Wisconsin Department of Health and Family Services, notes that the fish advisories roughly correspond to a one in 10,000 increased chance of getting cancer. "We would certainly prefer that the risks be even lower, but we are also balancing the significant nutritional benefit of fish as a low-fat source of protein," he said.

The cleanup techniques proposed in the plan — a combination of dredging and monitored natural recovery — will reduce PCB levels in fish so that walleye fish consumption advisories could be lifted in a few years to about 40 years, depending on the area of the river. "The good news is that anglers will be able to safely eat fish in the future," added Milt Clark, senior health and science advisor at EPA's regional office in Chicago. "In five to 10 years, large walleye, which shouldn't be eaten today, could be eaten about once per week," he continued.

The graph below provides estimates of the time needed to remove walleye fish advisories for each segment of the river. "This may be helpful to residents planning to send comments on the proposed cleanup plan," Clark concluded. "One way to gauge the cleanup plan is by how long it takes to remove fish advisories."



This graph summarizes the estimated times to lift walleye advisories.

COMMENT SHEET

DNR and EPA are interested in your comments on the proposed cleanup alternatives. The agencies will consider public comments before selecting a final cleanup remedy for the Lower Fox River and Green Bay site. You may use the space below to write your comments, then fold and mail this form. Comments must be postmarked by January 21, 2002. Comments may also be sent via e-mail to Edward K. Lynch at FoxRIFS@dnr.state.wi.us.

Name_____

Affiliation _____

Address_____

City_____ State_____Zip_____

Lower Fox River
Public Comment Sheet

Detach, fold, stamp, and mail

Name_____
Address_____
City_____
State_____
Zip_____

Place
Stamp
Here

Edward K. Lynch, P.E.
Fox River Project Manager
Wisconsin DNR (RR/3)
101 S. Webster St.
P.O. Box 7921
Madison, WI 53707-7921

Hundreds Attend Public Meetings

By Susan Pastor, U.S. Environmental Protection Agency

More than 300 people turned out for two public meetings on the proposed remediation plan to clean up the Lower Fox River and Green Bay site.

EPA's Jim Hahnenberg discusses the proposed plan with a citizen before the Oct. 29 public meeting in Appleton.

The meetings, held in Appleton on Oct. 29 and in Green Bay on Oct. 30, featured a presentation by Wisconsin Department of Natural Resources staff, question and answer forum with DNR and U.S. Environmental Protection Agency representatives and an opportunity for public comment. While dozens stepped up to a microphone to give oral comments, several others elected to either drop off written comments or to speak privately to a court reporter. All of these options ensured that citizens' comments would be part of the official record.

Many of the questions and comments centered on the portion of the proposed plan that dealt with Green Bay, the cleanup level of 1 part per million and the estimated cost of the cleanup. Among the groups represented at the meetings were the Clean Water Action Council, Sierra Club, Wisconsin Wildlife Federation, Southwest and DePere High School Ecology Clubs, League of Women Voters, Green Bay Area and Fox Cities Chambers of Commerce, and Oneida Tribe of Indians of Wisconsin.

DNR's Ed Lynch meets informally with some area officials before the Oct. 30 public meeting in Green Bay.

A responsiveness summary, which will include comments and agency responses, will be attached to the record of decision, the document that will detail the cleanup plan that will eventually be chosen by the DNR and EPA.

Comments will be accepted through January 21, 2002. They may be sent to Edward K. Lynch, P.E., Fox River Project Manager, Wisconsin DNR (RR/3), 101 S. Webster St., P.O. Box 7921, Madison, WI 53707-7921 or via e-mail at FoxRIFS@dnr.state.wi.us.

Profile On . . . Colette Charbonneau

New FWS Restoration Coordinator Brings NRDA Experience Back Home

By Susan Pastor, U.S. Environmental Protection Agency

Wisconsin native Colette Charbonneau, 37, is returning to her home state after a 12-year absence to serve as the restoration coordinator in the U.S. Fish and Wildlife Service Green Bay office. Charbonneau said her predecessor, David Allen, recommended her for the job. "He knew I wanted to come back to Wisconsin," she stated.

Originally from Bloomer, Charbonneau was also recommended because of her experience as a contaminant specialist, wildlife refuge planner and ecological risk assessor. She said her highest priority now is to develop a "strawman restoration plan" for the Lower Fox River Natural Resource Damage Assessment. Charbonneau, who moved to Green Bay from Minneapolis in late October, said she met with the other natural resource trustees prior to her relocation and it was decided that she would begin working on a draft plan. She will also identify restoration projects on behalf of FWS that may be funded by the $40 million agreement reached earlier this year among the U.S. Environmental Protection Agency, the trustees, Appleton Papers Inc. and NCR Corporation.

"I'm so excited to be doing some of the restoration," she said. "I can bring to the table what our restoration priorities are."

Although she has been "to the table" for other restoration projects, the Fox River is the first one that involves the public. "The public wasn't involved in my other projects, so this should be interesting," she remarked.

Even though she has worked on projects without a public involvement component, Charbonneau, who holds a bachelor's degree in wildlife management from University of Wisconsin–Stevens Point and a master's degree in wildlife and fisheries from University of Missouri–Columbia, has had some challenging NRDA experiences.

Colette Charbonneau

While working for FWS in its Missouri office, she said she was involved in a "coordination nightmare." According to Charbonneau, the Tri-State Mining District in Jasper County, MO involved three states (Missouri, Kansas and Oklahoma), three FWS regions, two EPA regions, two Department of the Interior regions and nine tribes. "There was a bankruptcy involved and three Fish and Wildlife offices came up with claims virtually overnight," she explained. "Of course, the responsible party went with the lowest claim."

Charbonneau, who has been with FWS since 1989, said she wanted a unified front and eventually got everyone together. "They all signed a partnership agreement," she continued. "This started in 1995 and the agreement was signed five years later. It's still moving along and people are talking to each other."

She also worked on a project referred to as the "Missouri dioxin site." She explained, "It was challenging because the state didn't want to be known as a dioxin state and was hesitant to work with us.

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But, we resolved all of the issues and are now working together as co-trustees."

Charbonneau, who spins wool, crochets and weaves when she's not riding one of her two horses, said her work on dioxins combined with her technical background will be helpful in her new position. "I do believe in having everyone working together," she said. "I try to listen to everyone and get some sort of collaboration going."

Although Charbonneau had never been to Green Bay until she was house hunting in September, she said she has always been a loyal Packer fan. She added that she maintained her loyalty even while residing in Missouri and Minnesota. As a newcomer to the Green Bay area, Charbonneau is particularly interested in meeting people who have access to good seats in Lambeau Field, so if anyone has an extra ticket . . .

Cleanup Plan *from page 2*

DNR and EPA have proposed a cleanup level of 1 part per million for OUs 1, 3 and 4. The final design number for cleanup will depend on site characteristics and other factors. Studies found that lower cleanup levels would not significantly reduce the time required to eliminate fish consumption advisories or achieve ecological protection. Cleanup levels higher than 1 ppm would not permit human health and ecological goals to be met for many decades. In river reaches where the proposed cleanup plan calls for dredging, the goal calls for removal of all sediment with PCB concentrations above 1 ppm. The 1 ppm cleanup level represents the concentrations to be removed from the river.

The public comment period has been underway since Oct. 5 and will end on Jan. 21, 2002. Anyone wishing to review the proposed plan can find copies at any of the information repositories listed below or online at www.dnr.state.wi.us/org/water/wm/lowerfox/index.html. Written comments should be sent to: Edward K. Lynch, PE; Wisconsin DNR, RR/3; 101 S.Webster St.; PO Box 7921; Madison, WI, 53707-7921. Comments can also be submitted by e-mail at FoxRIFS@dnr.state.wi.us.

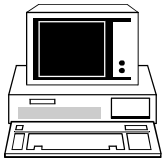
Check out these Web sites:

http://www.dnr.state.wi.us/org/water/wm/lowerfox/

http://www.epa.gov/region5/foxriver/

http://www.fws.gov/r9dec/nrdar/nrdamain.html

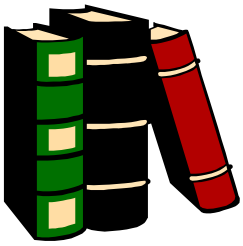
http://www.fws.gov/r3pao/nrda/



Information Available at Local Libraries

The Intergovernmental Partners invite the public to review technical reports, fact sheets and other documents related to the Lower Fox River cleanup at information repositories set up in the reference sections of the following local libraries. Information repositories at the public libraries in DePere, Kaukauna, Little Chute, Neenah, and Wrightstown have been discontinued. However, binders containing fact sheets will be mailed to and maintained at these locations as well as at the repositories listed below.

- **Appleton Public Library**, 225 N. Oneida St., Appleton, WI; (920) 832-6170
- **Brown County Library**, 515 Pine St., Green Bay, WI; (920) 448-4381, Ext. 394
- **Door County Library**, 107 S. Fourth Ave., Sturgeon Bay, WI; (920) 743-6578
- **Oneida Community Library**, 201 Elm St., Oneida, WI; (920) 869-2210
- **Oshkosh Public Library**, 106 Washington Ave., Oshkosh, WI; (920) 236-5200



An administrative record, which contains detailed information upon which the selection of the final site cleanup plan will be based, is also available for review at two DNR offices: 801 E. Walnut St., Green Bay, WI and 101 S. Webster St., 3rd Floor, Madison, WI. An administrative record is also available at the EPA's Record Center, 77 W. Jackson Blvd., 7th Floor, Chicago, IL.

Prepared by the Fox River Intergovernmental Partnership: Wisconsin Department of Natural Resources, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Menominee Indian Tribe of Wisconsin, Oneida Tribe of Indians of Wisconsin, and National Oceanic and Atmospheric Administration. Supporting agencies include the Wisconsin Department of Health and Family Services, the U.S. Agency for Toxic Substances and Disease Registry, and the U.S. Army Corps of Engineers.

Disclaimer: The opinions expressed in these articles are solely those of the authors and are not necessarily shared by all members of the Fox River Intergovernmental Partnership.

INSIDE FOX RIVER *CURRENT*

Fox River Current is published bimonthly by the Fox River Intergovernmental Partnership. Its purpose is to provide up-to-date information about cleanup and restoration efforts on the Lower Fox River. Call Greg Swanson at (608) 264-6024 to request a subscription or alternative format. Feedback on articles and ideas for future issues are welcome. Send comments to Greg Swanson, *Fox River Current*, DNR, CE/6, P.O. Box 7921, Madison, WI 53707 or email <swansg@dnr.state.wi.us>

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